

WHAT IS CLAIMED IS:

1. A ball grid array (BGA) package, comprising:
a substrate;
a stiffener that has a surface attached to a first surface of said substrate;
and
a plurality of solder balls attached to a second surface of said substrate.
2. The package of claim 1, wherein at least a portion of a second surface of said stiffener is patterned.
3. The package of claim 1, further comprising:
a second stiffener coupled to a second surface of said first stiffener.
4. The package of claim 3, further comprising:
an adhesive dielectric layer coupled between said first stiffener and said second stiffener.
5. The package of claim 1, wherein said substrate includes at least one metal layer.
6. The package of claim 1, wherein said substrate includes at least one conductive via coupling at least one of said plurality of solder balls to said surface of said stiffener.
7. The package of claim 1, wherein said substrate has an opening through said second surface of said substrate, wherein a portion of said surface of said stiffener is exposed through said opening.

8. The package of claim 7, wherein said exposed portion of said surface of said stiffener includes a down-set portion.

9. The package of claim 7, further comprising:
a heat slug coupled to said exposed portion of said surface of said stiffener.

10. The package of claim 9, wherein said heat slug includes a surface bump, wherein said exposed portion of said surface of said stiffener includes a surface slot, wherein said surface bump and said surface slot form a locking mechanism.

11. The package of claim 1, wherein said substrate has a first opening through said second surface of said substrate, wherein said stiffener has a second opening through said surface of said stiffener, the package further comprising:
a heat slug that resides at least partially in said first and said second openings, wherein a surface of said heat slug is exposed through a second surface of said stiffener.

12. The package of claim 11, further comprising:
a semiconductor die mounted to said exposed surface of said heat slug.

13. The package of claim 1, further comprising:
a semiconductor die mounted to a second surface of said stiffener.